E-6B Message Processing System

Industry Day

25 April 2005

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E-6 MPS IPT Lead

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Agenda

SOURCE SELECTION INFORMATION – SEE FAR SUBPART 3

- Introduction
- Ground Rules
- Purpose
- Background
- Program Goals
- Requirements
- Program Description
- Contracting Approach
  - MPS Kit Buys
  - Contract Structure
- E-6B Lab ASCET Facility
- Notional Schedule
- Summary
- General Questions & Answers
- One-on-One Question and Answer Period

Introduction

- PMA-271
  - CAPT Jay S. Gallamore, E-6 Program Manager PMA 271
  - Mr. Dan Skane, E-6 Principal Deputy Program Manager
  - Mr. Sean Faubion, E-6 Deputy Program Manager, SD&D
  - Mr. Joe Marquis, E-6 Tech Insertion Lead
  - CDR Blake Weber, APM, Systems Engineering
  - LCDR Lawrence Byrnes, E-6 ASPO
  - Mr. Matthew Anderson, Systems Integration Lab IPT Lead
- Contracts
  - Ms. Christina Hall, Procuring Contracting Officer
  - Mr. Jeff O'Neil, MPS Lead Contracting Specialist

Ground Rules

- Please provide all questions and comments in writing
- All interchange after this forum must be in writing to the Contracting Officer, Mr. Jeff O'Neil
- Briefing posted to web
- Final RFP is the authority
- After today Lead Contracting Specialist will be the POC for all matters concerning MPS
- One-on-One sessions will be held after the main brief

Purpose

- This venue is provided to answer Industry concerns and collect feedback prior to release of the Final RFP
- Improve Industry's understanding of the Government's requirements
- Improve the Government's understanding of Industry's capabilities
- Enhance the Government's ability to obtain quality products and services to satisfy the Fleet's needs

Background

- Mission Computer Set (MCS) software and hardware obsolescence identified as high risk
- Vendor support is no longer available
  - MCS software
  - Many critical components

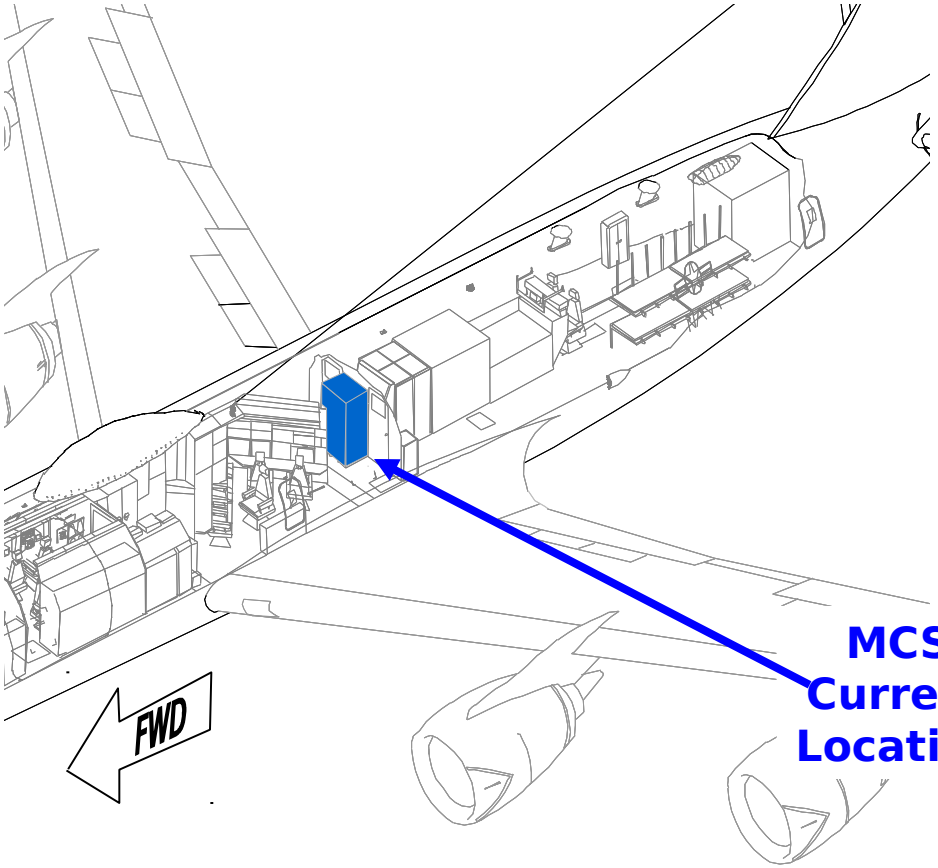
Program Goals

- Eliminate operational shortcomings and address obsolescence of the existing MCS
- Minimize aircraft integration effort
- MPS is required to support E-6B operations through 2015
- No increase in aircraft zero fuel weight

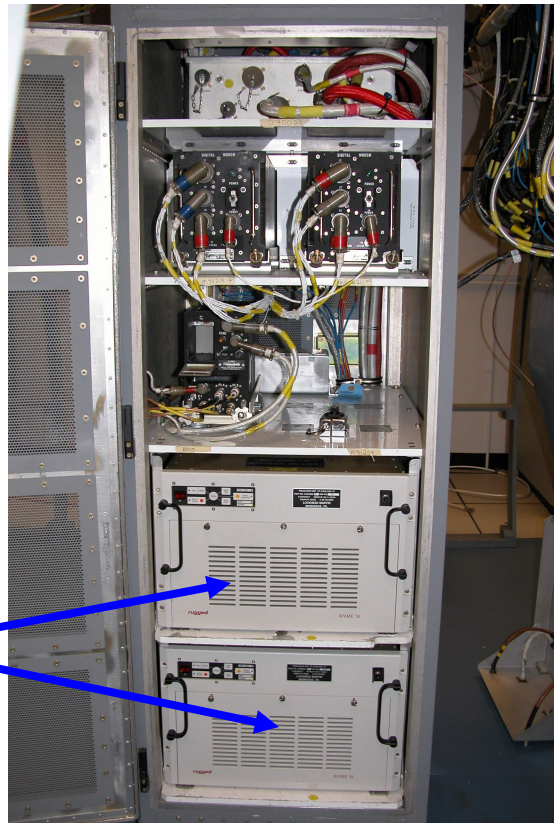
Functional Requirements

- Data processing
  - EAM and other message generation, editing, storage, transmission and reception
- Interface with mission avionics
  - For example: VLF Transmit/Receive, MILSTAR, COMSEC devices, DAMA, NPES
- System controls
  - MMRT, UHF Satellite control
- Operator control via graphical user interface

Current MCS Location



MCS Current Location



Program Description

- Replace MCS components with functionally equivalent COTS/NDI hardware and software
- Contractor field team installs at Tinker AFB during Enhanced Phase Maintenance
- Val/Ver evaluation
  - Airborne Strategic Communications Engineering and Test (ASCET) facility for integration risk reduction
  - Ground test evaluation
  - Minimal flight tests if necessary
- Sustaining Engineering FY07-09 will be mainly for software support after finalizing of code in FY06
  - Will be capped to a $ threshold
  - Offerors are to identify the support requirements

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Jeffrey O'Neil
Contract Specialist

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Contract Structure

- Base award (FY05)
  - Hardware/software requirements analysis, hardware NRE, initial software NRE, and 1 SIL kit (CPFF CLINs)
- Option 1 (FY06)
  - Software NRE completion (CPFF CLINs)
  - SIL install, buy 3 aircraft kits and 1 trainer kit (FFP CLINs)
- Option 2 (FY07)
  - V&V, buy 13 kits and 1 trainer kit, install aircraft and trainer kits, buy spares (FFP CLINs)
  - NEW: Software support (T&M CLINs)
- NEW: Option 3 (FY08)
  - Software support (T&M CLINs)
- NEW: Option 4 (FY09)
  - Software support (T&M CLINs)

MPS Kit Buys

- 1 ASCET
- 15 aircraft
- 2 Mission Avionics Systems trainer modifications
- 12 spares

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Matthew Anderson
Systems Integration Lab IPT Lead

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E-6B Lab ASCET Facility

- Airborne Strategic Communications Engineering and Test (ASCET) facility is in Bldg 1652
- Lab Manager is Matt Anderson
- Level-I Secure Facility
- No Foreign Nationals
- Labs are in SECRET Strong Rooms
- ASCET contains:
  - Engineering Development Lab
    - This will be the facility used for MPS
    - Fully functional development lab
  - Systems Integration Lab (SIL)
  - TACAMO Library
  - Manufacture / Repair shop

Notional Program Schedule

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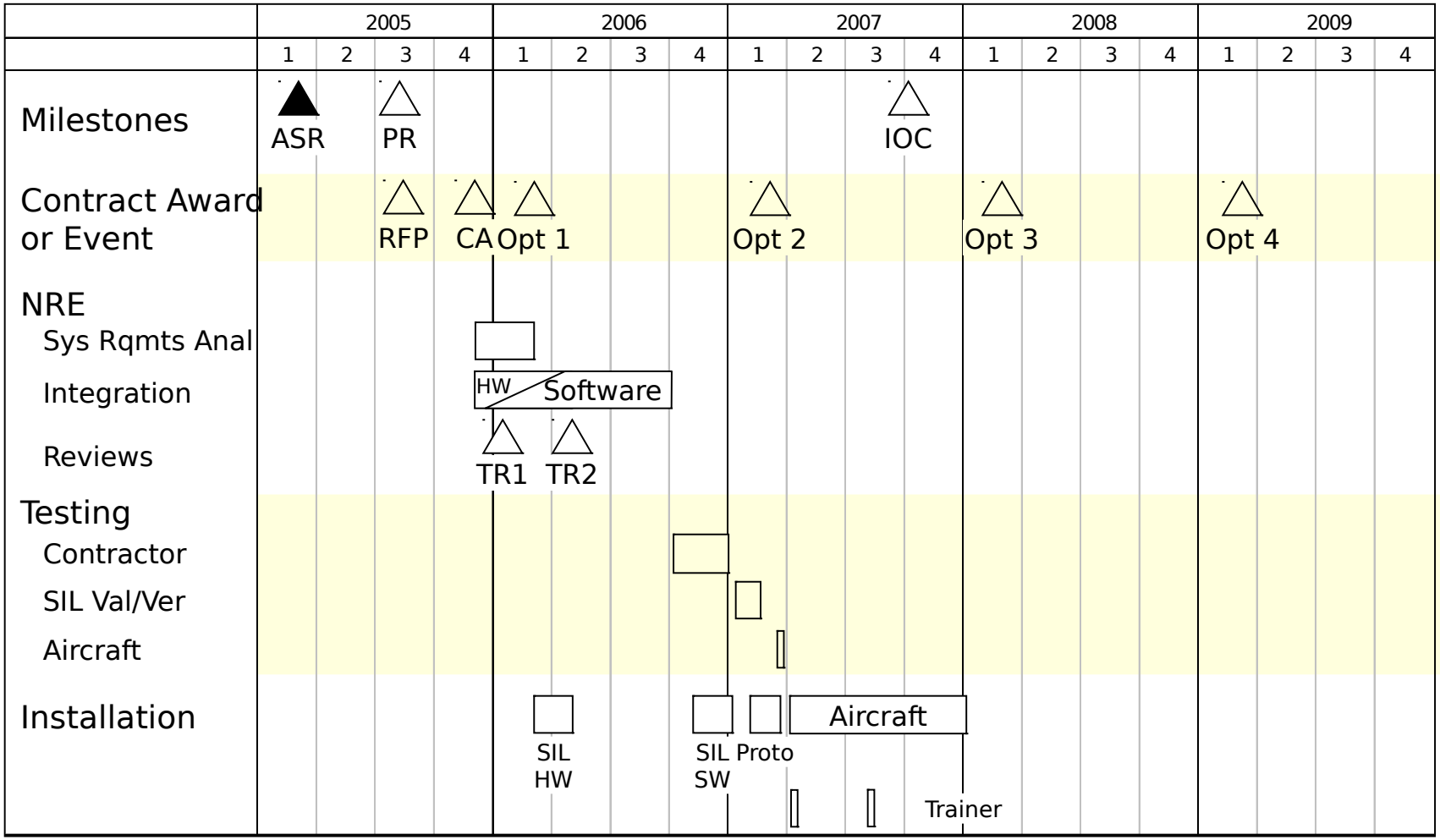

Summary

- Mr. Jeff O'Neil is official POC for the MPS effort
- Replace current MCS components with functionally equivalent COTS/NDI hardware and software solution
- ASCET Facilities will be available for testing and verifications purposes

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QUESTIONS & ANSWERS

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BACK-UPS

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MCS Background
Hardware

- Obsolete during ABNCP EMD
  - Out of production in 2000
  - Life of type buy completed to support ABNCP production
- Critical MCS components currently unsupportable
  - No spares, vendor support, or replacement for
    - GFCP CPU MVME 162/167 card: Provides interface to communications equipment
    - VMTR2 single board computer: Processes and relays EAMs
    - Mass Storage Units: Stores message database and software
  - Mitigation efforts to date
    - Single processor operations (vice dual) expected to stretch end of life
    - Replacement MSU in-work under AAP Spiral 1
    - Remounted MSU drive cradle
    - Installed new flat panel DKUs

MCS Background
Software

- Mission Computer Set (MCS) processes messages
- Uses obsolete Ada compiler, Graphic User Interface, Operating System and database
- Unstable system
  - Lock-ups and corruption cause mission degradation
  - Dual processors use over 40% of processing assets to keep each other updated
- Cumbersome user interface
- 25 minute shutdown - reboot cycle

Requirement

- Operational Requirements Document for E-6B Mercury Weapon System TACAMO/ABNCP Block I Modification, 629-78-04, 5 Feb 04
- CJCS Strategic Emergency Action Procedures
- CJCS OPORD 2-CY, Survivable Mobile Command Center Operations
- STRAT OPLAN 8044-98, Jan 01
- CTF 124 OPORD 8124, Jan 01

E-6B Lab SIL/AIRCRAFT Differences

- The SIL duplicates the Aircraft MAS except for the following:
  - Does Not Use Actual Aircraft Power, Cooling or Lighting
  - No VLF Transmit capability (uses loop back testing)
  - No Oxygen System, ECS, IRUs, or HPTS
  - ARC-190 Transceiver “HF-1” not installed (reserved for FDAS)
  - UHF: Only one receive and one transmit antenna; the rest are tied to dummy loads.
  - MILSTAR: contains EDM boxes which do have the latest mods.
  - Antennas are on the rooftop directly above the SIL.
  - MCS boxes which extend to the flight deck on an aircraft are consolidated in one SIL-unique rack.